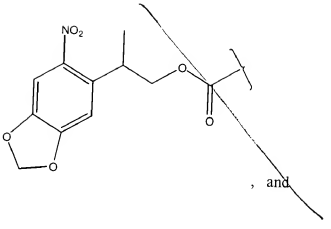

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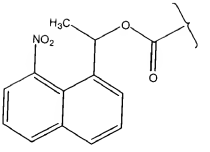

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35. (New) The method of Claim 34, wherein M_1 for each occurrence is a nucleoside β-cyanoethyl phosphoramidite.

REMARKS

The remainder of this Amendment is set forth under appropriate subheadings for the convenience of the Examiner.

Objection to the Declaration

The Examiner has required that Applicant file a new Declaration because the Declaration does not identify a post office address for Applicant.

Applicant has filed herewith a new Declaration in which Applicant's post office address and Applicant's home address are identified.

Claim Amendments

Applicant has amended Claim 1 to indicate that the compound claimed is represented by the formula M-Y, wherein M is a monomeric building block, a solid surface or a gel and Y is a photolabile protecting group. Support for this amendment can be found on page 6, line 27 to page 7, line 4 and on page 9, lines 1-6 of the specification. Applicant has amended the structural formulas from which Y can be selected to indicate via a parenthesis where the protecting group Y is attached to M. Applicant has also amended the structural formulas from which Y can be selected from by deleting o-nitrophenylaminocarbonyl and o-nitrophenoxycarbonyl and adding 2-

(o-nitrophenyl)-2-propyloxycarbonyl and (7-nitroindan-1-yl)carbonyl. Support for the addition of 2-(o-nitrophenyl)-2-propyloxycarbonyl can be found in Figure 7, and support for the addition of (7-nitroindan-1-yl)carbonyl can be found in Figure 4. Applicant has amended Claim 1 to indicate that the aromatic ring in the structures from which Y can be selected from can be substituted with an alkoxy group or a methylenedioxy group. Support for this amendment can be found in Figures 2, 3, and 5-7. Applicant has amended the structural formula of α-methyl-8-nitronaphthylmethoxycarbonyl (MeNMOC) to remove one of the oxygens attached to the carbonyl group. Support for this amendment can be found in the name of the structure in Figure 1 (i.e., α-methyl-8-nitronaphthylmethoxycarbonyl) which does not indicate that the structure has two oxygens attached to the carbonyl. Applicant has amended this structure in the formal drawings submitted herewith. Applicant has amended Claim 1 to include a definition of the terms "R" and "R_1". Support for this amendment can be found on page 6, lines 25-26 of the specification. Applicant has replaced the term "CH2)n" in the definition of A in Claim 1 with the term "$(CH_2)_n$". Support for this amendment can be found in Figure 1, under the structural formula labeled 6NPPOC.

Applicant has amended Claim 2 to correct a typographical error in the term "nucleotide."

Applicant has amended Claims 2-4 to make the terminology of the claims consistent with amended Claim 1.

Applicant has amended Claim 5 to make it an independent claim. Thus, Applicant has amended the claim to indicate that the first molecule is a molecule represented by the formula M_1-Y_1, wherein M_1 is a monomeric building block.. Support for this amendment can be found on page 6, line 27 to page 7, line 4 of the specification. Y_1 in amended Claim 5 is selected from any one of the structures from which Y could be selected in dependent Claim 5 in the claims as filed. In addition, the protecting groups 2-(o-nitrophenyl)-2-propyloxycarbonyl and (7-nitroindan-1-yl)carbonyl have been add to the list of groups from which Y_1 can be selected from. As discussed above, support for the addition of 2-(o-nitrophenyl)-2-propyloxycarbonyl can be found in Figure 7, and support for the addition of (7-nitroindan-1-yl)carbonyl can be found in Figure 4.

Applicant has corrected an error in the dependency of Claims 8 and 9.

Applicant has amended Claims 7-9, 11 and 12 to make the terminology of the claims consistent with amended Claim 5.

Applicant has amended Claim 14 to make it an independent claim. Thus, Applicant has amended the claim to indicate that molecules that bind to activated regions of the support and to molecules bound to the support that have unmasked reactive sites are represented by the formula M_1-Y_1. As discussed above, support for this amendment can be found on page 6, line 27 to page 7, line 4 of the specification. Y_1 in amended Claim 14 is selected from any one of the structures from which Y was selected in dependent Claim 14 in the claims as filed. In addition, the protecting groups 2-(o-nitrophenyl)-2-propyloxycarbonyl and (7-nitroindan-1-yl)carbonyl have been added to the list of groups from which Y_1 can be selected. As discussed above, support for the addition of 2-(o-nitrophenyl)-2-propyloxycarbonyl can be found in Figure 7, and support for the addition of (7-nitroindan-1-yl)carbonyl can be found in Figure 4.

Applicant has amended Claims 16, 18, 19, 21 and 23 to make the terminology of the claims consistent with amended Claim 14.

New Claims 30-35

Support for the groups from which Y_1 in Claims 30, 32 and 34 is selected can be found in Figures 3-8. Support for defining M_1 as a nucleoside β-cyanoethyl phosphoramidite can also be found in Figures 3-8.

Objections to Claims 1-3 and 29

The Examiner has objected to Claim 1 because the term "CH2)n" contains an unclosed parenthesis recited therein. Applicant has replaced the term "CH2)n" with the term "$(CH_2)_n$".

The Examiner has objected to Claim 2 and Claim 3 because the term "nucleotide" was improperly spelled in Claim 2. Applicant has corrected this spelling error.

The Examiner has objected to Claim 29 because the term ".A" is recited therein. Applicant has cancelled Claim 29.

Rejection of Claims 1-29 Under 35 U.S.C. § 112, Second Paragraph

The Examiner has stated that Claim 1, and the claims depending therefrom, are indefinite because the phrase "A compound of the group consisting essentially of the structures shown

below, designated as Y" does not make clear what structures other than those designated as "Y" qualify as members of the claimed compound.

Applicant has amended Claim 1 to indicate that compounds claimed are represented by the formula M-Y, wherein M is a monomeric building block, a solid support or a gel having a reactive site that is masked by Y.

The Examiner also finds Claim 1 to be indefinite, stating that the groups R and R_1 in the structural formulas from which Y can be selected have not been defined.

Applicant has amended Claim 1 to indicate that R and R_1 are each, independently, -H, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alknyl group, an optionally substituted aryl group, or an optionally substituted heteroaromatic group.

The Examiner has stated that the term "weakly basic group" in Claim 1 is a relative term that renders the claim indefinite. The Examiner has stated that the specification does not provide a standard for ascertaining the requisite degree and one of ordinary skill in the art would not be apprized of the scope of the invention.

Applicant has provided a standard for ascertaining the requisite degree of basicity of a weakly basic group by way of example. Applicant disclose N-alkylimidazole as an example of a weakly basic group in Figure 1 under the structure labeled 6NPPOC. Thus, a person of ordinary skill in the art could look up the basicity of various N-alkylated imidazoles to determine the range of basicity of a weakly basic group. Therefore, the term "weakly basic group" when read in light of Applicant's disclosure is not indefinite. In view of the above amendments and remarks, Applicant believes that Claim 1, as amended, meets the requirements of 35 U.S.C. § 112, second paragraph.

With regard to Claim 2, the Examiner has stated that the phrase "further comprising a chemical fragment selected the group consisting of an amino acid, a peptide, nucleoside, nucleotide, polynucleotide or analogs thereof, a monosaccharide and a protein" is indefinite because it is unclear how these structures are related to the compounds of Claim 1. The Examiner has further stated that it is unclear how the fragments recited in Claim 2 are chemically linked to the compounds of Claim 1.

Applicant has amended Claim 1 such that the compound claimed has the formula M-Y. In amended Claim 1, Applicant has used a parenthesis to indicate the point of attachment of Y to the monomeric building block, solid support or gel represented by M. In amended Claim 2, Applicant has indicated that M is a monomeric building block selected from an amino acid, a peptide, nucleoside, nucleotide, polynucleotide or analogs thereof, a monosaccharide and a protein. In addition, Applicant has disclosed that monomeric building blocks are linked to photolabile protecting groups via a nucleophilic reactive group (see page 7, lines 2-4 of the specification) such as a hydroxy group or an amine group (see page 6, lines 31-32 of the specification). Thus, a person of ordinary skill in the art would understand how the monomeric building blocks of Claim 2, as amended, are chemically linked to the photolabile protecting group listing in Claim 1, as amended. Therefore, Claim 2, as amended, meets the requirements of 35 U.S.C. § 112, second paragraph.

The Examiner has stated that there is no antecedent basis for the limitation "said first molecule" recited in Claim 5. Applicant has amended Claim 5 to correct this error.

The Examiner has stated that the term "Y-C(O)-" in Claims 5-23 and 26-29 is indefinite. Applicant has canceled Claims 26-29, obviating the rejection for these claims. Applicant has amended Claim 5 and 14 such that the term "Y-C(O)-" no longer appears in these claims. Thus, Claims 5 and 14, as amended, and the claims depending therefrom (Claims 6-13 and 15-23), meet the requirements of 35 U.S.C. § 112, second paragraph.

The Examiner has rejected Claims 24-29 under 35 U.S.C. § 112, second paragraph because the claims recite an improper Markush group. In addition, Claim 24 and 25 have been rejected because the relationship between the groups recited in the claim and Y in Claim 1 is unclear. Applicant has canceled Claims 24-29, obviating the rejection.

In view of the above amendments and remarks, Applicant believes that Claims 1-23, as amended, meet the requirements of 35 U.S.C. § 112, second paragraph.

Rejection of Claim 1 Under 35 U.S.C. §§ 102(b) and 103(a) Over Okamato, *et al.*

In the Supplemental Office Action mailed on May 31, 2001, the Examiner has withdrawn the rejections of Claim 1 under 35 U.S.C. §§ 102(b) and 103(a) over Okamato, *et al.*, European

Patent Application No. 0 837 141 A2 that were made in the Office Action mailed on May 23, 2001.

Rejection of Claims 1-2 Under 35 U.S.C. § 102(b) Over Martinez, *et al.*

The Examiner has rejected Claims 1 and 2 as being anticipated by Martinez, *et al.*, *Tetrahedron Lett.* (1975), *31*:2631-2632 (hereinafter "Martinez, *et al.*") because the Examiner has stated that glycine, N-[(phenylmethoxy)carbonyl]-, 2-nitrophenyl ester which is cited in the article contains one of the structures designated as "Y" in Claim 1.

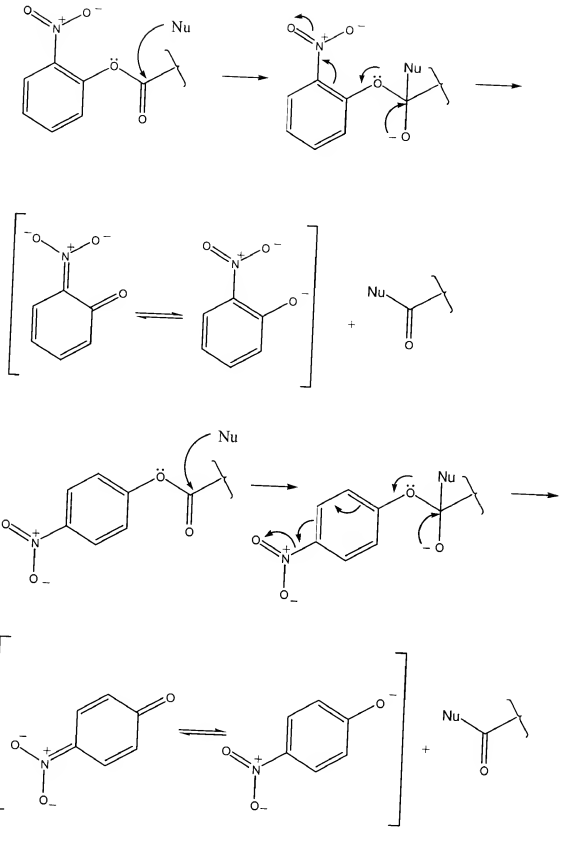
Applicant has amended Claim 1 so that Y can no longer be an o-nitrophenoxycarbonyl group. Thus, glycine, N-[(phenylmethoxy)carbonyl]-, 2-nitrophenyl ester disclosed by Martinez, *et al.* does not anticipate Claim 1, as amended, or the claims depending therefrom. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claims 1-2 Under 35 U.S.C. § 103(a) Over Martinez, *et al.*

The Examiner has rejected Claims 1 and 2 as being obvious in view of Martinez, *et al.*, because the Examiner has stated that glycine, N-[(phenylmethoxy)carbonyl]-, 2-nitrophenyl ester which is cited in the article contains one of the structures designated as "Y" in Claim 1.

Martinez, *et al.* teach a method of forming activated esters using hexachlorocyclotriphosphatriazene as a coupling agent (see Martinez, *et al.*, page 2631, reaction scheme and paragraphs 1 and 2). In the method taught by Martinez, *et al.*, activated esters are formed from o-nitrophenol, p-nitrophenol and pentachlorophenol (see Martinez, *et al.*, table on page 2632).

Applicant's claimed compounds containing photolabile protecting groups are non-obvious over activated esters prepared by Martinez, *et al.* because a person skilled in the art would have no motivation to modify the activated esters of Martinez, et al to prepare compounds having photolabile protecting groups claimed in Claim 1, as amended. o-Nitrophenol and p-nitrophenol which Martinez, *et al.* teach are useful for forming active esters have a phenolic oxygen having electrons that can form resonance structures with the nitro group on the aromatic ring. This stabilizes the negative charge that develops during nucleophilic substitution, as shown below for o-nitrophenoxycarbonyl and p-nitrophenoxycarbonyl:



Nu = nucleophile

In Applicant's Claim 1, as amended, none of Applicant's photolabile protecting groups have an ester group in which the oxygen of the ester can form a resonance structure with the nitro group of the aromatic ring. Since the nitrophenoxy active esters taught by Martinez, *et al.* have structures wherein the ester oxygen can resonate with the nitro group on the aromatic ring, a person skilled in the art would not have been motivated by the teachings of Martinez, *et al.* to form Applicant's photolabile protecting groups wherein the ester oxygen cannot resonate with the nitro group of the aromatic ring. Therefore, Applicant's compounds of Claim 1, as amended, and the claims depending therefrom, are non-obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claims 1-2 Under 35 U.S.C. § 102(b) Over Kiyoto, *et al.*

The Examiner has rejected Claims 1 and 2 as being anticipated by Kiyoto, *et al.*, Japanese Patent No. 11-29590 (hereinafter "Kiyoto, *et al.*") because the Examiner has stated that Kiyoto, *et al.* disclose a method of making β-D-allofuranuronic acid, 1,5-dideoxy-1-(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)5-[[[(2-nitrophenyl)amino]carbonyl]amino]. The Examiner has stated that this compound contains one of the structures designated as "Y" in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenylaminocarbonyl group. Thus, β-D-allofuranuronic acid, 1,5-dideoxy-1-(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)5-[[[(2-nitrophenyl)amino]carbonyl]amino] disclosed by Kiyoto, *et al.* does not anticipate Claim 1, or claims depending therefrom, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claim 1 Under 35 U.S.C. § 102(b) Over Catalanotti, *et al.*

The Examiner has rejected Claim 1 as being anticipated by Cattalanotti, *et al.*, *Eur. J. Org. Chem.* (1999), 2235-2239 (hereinafter "Catalanotti, *et al.*") because the Examiner has stated that Catalanotti, *et al.* disclose a compound designated 4c that contains one of the structures designated as "Y" in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenylaminocarbonyl group. Thus, compound 4c of Catalanotti, *et al.* does not anticipate Claim 1, as amended. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claims 1-2 Under 35 U.S.C. § 102(b) Over Bodanszky, *et al.*

The Examiner has rejected Claims 1 and 2 as being anticipated by Bodanszky, United States Patent No. 3,944,538 (hereinafter "Bodanszky") because the Examiner has stated that Bodanszky discloses a method of which uses a *t*-butyloxycarbonyl amino acid o-nitrophenyl ester. The Examiner has stated that this compound contains one of the structures designated as "Y" in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenoxycarbonyl group. Thus, *t*-butyloxycarbonyl amino acid o-nitrophenyl ester disclosed by Bodanszky does not anticipate Claim 1, as amended, or the claims depending therefrom. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claim 1 Under 35 U.S.C. § 102(b) Over Pieles, *et al.*

The Examiner has rejected Claim 1 as being anticipated by Pieles, *et al.*, *Nucleic Acid Research* (1990), *18*(15):4355-4360 (hereinafter "Pieles, *et al.*") because the Examiner has stated that Pieles, *et al.* disclose the use of (+)-biotin-2-nitrophenyl ester in Figure 1, reagent ii that contains one of the structures recited in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenoxycarbonyl group. Thus, (+)-biotin-2-nitrophenyl ester disclosed by Pieles, *et al.* does not anticipate Claim 1, as amended. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claim 1 Under 35 U.S.C. § 102(b) Over Neuner

The Examiner has rejected Claim 1 as being anticipated by Neuner, *Bioorganic & Medicinal Chemistry Letters* (1996), *16*(2):147-152 (hereinafter "Neuner") because the Examiner has stated that Neuner discloses the use of (+)-biotin-2-nitrophenyl ester in Scheme 2, reagent ix that contains one of the structures recited in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenoxycarbonyl group. Thus, (+)-biotin-2-nitrophenyl ester disclosed by Neuner does not anticipate Claim 1, as amended. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Rejection of Claim 1 Under 35 U.S.C. § 102(a) Over Wiley, *et al.*

The Examiner has rejected Claim 1 as being anticipated by Wiley, *et al.*, *J. of Med. Chem.* (2000), *43*:883-899 (hereinafter "Wiley, *et al.*") because the Examiner has stated that Wiley, *et al.* disclose compounds 9-11 in Scheme 1 that contains one of the structures recited in Claim 1.

Applicant has amended Claim 1 so that Y can no longer be a o-nitrophenylaminocarbonyl group. Thus, compounds 9-11 disclosed by Wiley, *et al.* do not anticipate Claim 1, as amended. Therefore, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Objection to the Drawings

The Draftsperson has objected to the drawings filed with the application.

Transmitted herewith are formal drawings, sheets 1/11 - 11/11, figures 1-8, for filing in the subject patent application.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Theresa A. Devlin

Theresa A. Devlin
Registration No. 45,361
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
Dated: 11/21/01

MARKED UP VERSION OF AMENDMENTS

Specification Amendments Under 37 C.F.R. § 1.121(b)(1)(iii)

Replace the paragraph at page 3, lines 8 through 9 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

[Figure 1 shows] Figures 1A-1I show a general outline of the alternative synthesis chemistries and outlines what the general structures for "Y" could be.

Replace the paragraph at page 3, lines 10 through 12 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

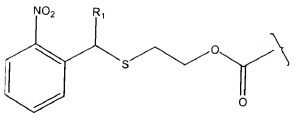
[Figure 2] Figure 2A shows specific compounds that are preferred within the general structures shown in Fig. 1. [and shows the stepwise yield when they were used to couple nucleotides together and the specific photolysis conditions used..]

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended) A compound [of the group consisting essentially of the structures shown below, designated as "Y"] represented by the formula M-Y, wherein:

M is a monomeric building block, a solid surface or a gel having a reactive site that is masked by Y; and

Y is a photolabile protecting group selected from the group consisting of: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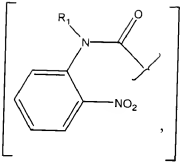
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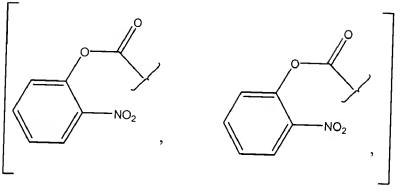
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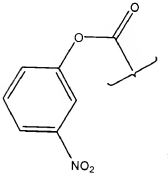
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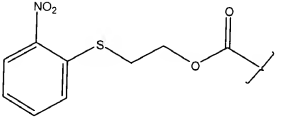
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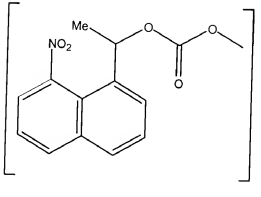
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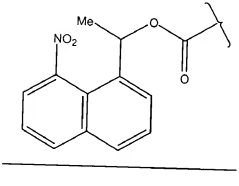
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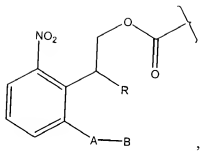

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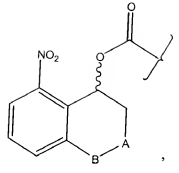

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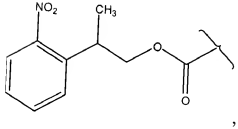

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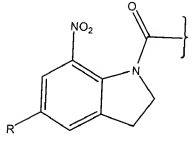

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wherein:

the aromatic ring is optionally substituted with an alkoxy group or a methylenedioxy group;

A is O, S, N-alkyl, N-aryl, or [CH2)n,] $(CH_2)_n$; [where]

n [=0-about 3] is 0 to about 3; [and]

B is an aprotic, weakly basic group; and

R and R_1 are each, independently, -H, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alknyl group, an optionally substituted aryl group, or an optionally substituted heteroaromatic group.

2. (Amended) The compound of Claim 1, [further comprising a chemical fragment] wherein M is selected from the group consisting of an amino acid, a peptide, nucleoside, [nucloetide] nucleotide, polynucleotide or analogs thereof, a monosaccharide and a protein.

3. (Amended) The compound of Claim 2, wherein [the compound comprises] M is a base-protected deoxynucleoside, wherein the deoxynucleoside is a deoxyadenosine, a deoxycytidine, a thymidine or a deoxyguanosine.

4. (Amended) The compound of Claim 3, wherein [the compound] M is selected from the group consisting of base protected deoxynucleoside H-phosphonates and base protected deoxynucleoside phosphoramidites.

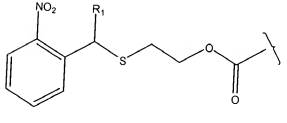
5. (Amended) A method of attaching a molecule with a reactive site to a support comprising the steps of:

(a) providing a support with a reactive site;

(b) binding a first molecule represented by the formula M_1-Y_1 to the reactive site, [said first molecule comprising a masked reactive site attached to a photolabile protecting group of the formula Y-C(O)-, wherein Y is a chemical group as claimed in claim 1;] wherein:

M_1 is a monomeric building block having a reactive site that is masked by Y_1; and

Y_1 is a photolabile protecting group selected from the group consisting of:



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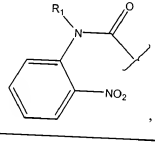

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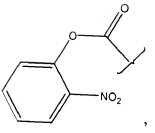

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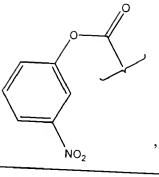

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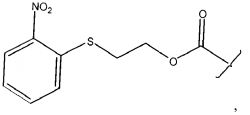

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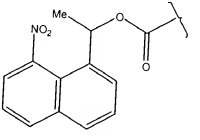

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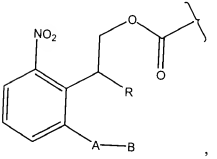

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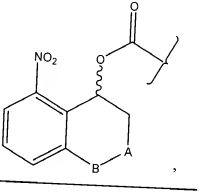

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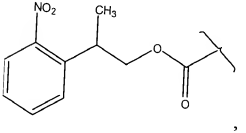

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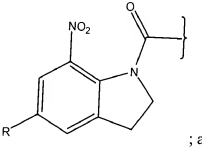


; and

wherein:

the aromatic ring is optionally substituted with an alkoxy group or a methylenedioxy group;

A is O, S, N-alkyl, N-aryl, or $(CH_2)_n$;

n is 0 to about 3;

B is an aprotic, weakly basic group;

R and R_1 are each, independently, -H, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alknyl group, an optionally substituted aryl group, or an optionally substituted heteroaromatic group; and

(c) removing [the photolabile protecting group] Y_1 to provide a derivatized support comprising [the molecule] M_1 with an unmasked reactive site immobilized thereon.

7. (Amended) The method of Claim 5, further comprising:

(a) coupling a second molecule represented by the formula M-Y_1 to the unmasked reactive site, [which second molecule comprises a second masked reactive site attached to the photolabile protecting group] wherein Y_1 and M of the second molecule are selected independent of the first molecule, to produce a derivatized support having immobilized thereon a chain of the first and the second molecules; and

(b) removing [the photolabile protecting group] Y_1 from the second molecule to provide a derivatized support with a chain of the first and the second molecules with a second unmasked reactive site immobilized thereon.

8. (Amended) The method of Claim [5] 7, further comprising repeating steps (a) and (b) of Claim [10] 7 with a succession of molecules represented by the formula M-Y_1, wherein Y_1 and M for each occurrence are selected independently, to provide a chain of molecules immobilized on the support.

9. (Amended) The method of Claim [5] 8, wherein [the molecules are deoxynucleosides] M for each occurrence is a deoxynucleoside.

11. (Amended) The method of Claim 9, wherein [the deoxynucleosides are linked to the photolabile group via] Y_1 of each deoxynucleoside masks a 5'-OH.

12. (Amended) The method of Claim 7, wherein [the photolabile group] Y_1 from said first and said second molecules is removed by irradiation at a wavelength of greater than 350 nm.

14. (Amended) A method of forming, from component molecules represented by the formula M_1-Y_1, a plurality of compounds [on] bound to a support, each compound occupying a separate predefined region of the support, said method comprising the steps of:

(a) activating a first region of the support;

(b) binding a molecule represented by the formula M_1-Y_1 to the first region[, said molecule comprising a masked reactive site linked to a photolabile protecting group of the formula Y-C(O)-, wherein Y is a chemical compound of the structure shown in claim 1];

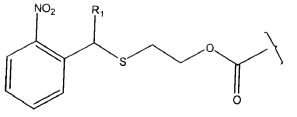
(c) repeating steps (a) and (b) on other regions of the support whereby each of said other regions has bound thereto another molecule represented by the formula M_1-Y_1 [comprising a masked reactive site linked to a photolabile protecting group, wherein said another molecules may be the same or different from that used in step (b)];

(d) removing [the photolabile protecting group] Y_1 from the M_1 that is bound to one [of the molecules bound to one of the] or more regions of the support to provide [a region bearing a molecule with] one or more regions having an unmasked reactive site;

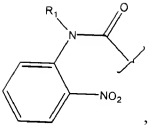
(e) binding an additional molecule represented by the formula M_1-Y_1 to the [molecule with an the] said one or more unmasked reactive [site;] sites, wherein:

M_1 for each occurrence is an independently selected monomeric building block having a reactive site that is masked by Y_1; and

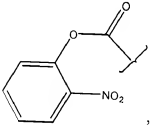
Y_1 for each occurrence is a photolabile protecting group that is independently selected from the group consisting of:


NO2
R1
S
O
O

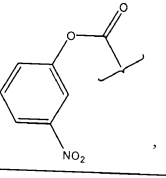
,


R1
N
O
NO2

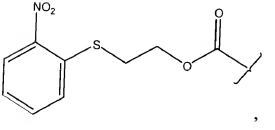
,


O
O
NO2

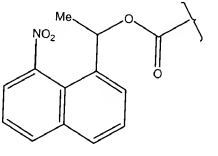
,


O
O
NO2

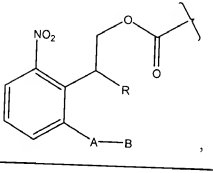
,


NO2
S
O
O

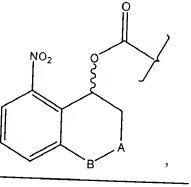
,


Me
NO2
O
O

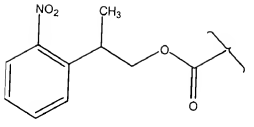
,


NO2
O
O
R
A
B

,


O
NO2
O
A
B

,



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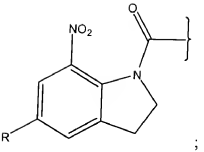


;

wherein:

the aromatic ring is optionally substituted with an alkoxy group or a methylenedioxy group;

A is O, S, N-alkyl, N-aryl, or $(CH_2)_n$;

n is 0 to about 3;

B is an aprotic, weakly basic group;

R and R_1 are each, independently, -H, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alknyl group, an optionally substituted aryl group, or an optionally substituted heteroaromatic group; and

(f) repeating steps (d) and (e) on regions of the support until a desired plurality of compounds is formed from the component molecules represented by formula M_1-Y_1, each compound occupying separate predefined regions of the support.

16. (Amended) The method of Claim 14, wherein [the molecules are deoxynucleosides] M_1 for each occurrence is a deoxynucleoside.

18. (Amended) The method of Claim 16, wherein [the deoxynucleosides are linked to the photolabile group via] Y_1 of each deoxynucleoside masks a 5'-OH or [the] a 3'-OH.

19. (Amended)The method of Claim 14, wherein [the photolabile group] Y_1 is removed by irradiation at a wavelength of greater than 350 nm.

21. (Amended) The method of Claim 14, wherein the plurality of different compounds bound to the support comprises at least 10^6 [chains] different compounds [are immobilized on the support].

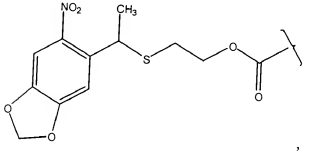
23. (Amended) The method of Claim 14, further comprising:

(a) covalently binding a [second] molecule comprising a masked reactive site linked to a chemically labile protecting group to a reactive site, wherein the reactive site is either on an activated region of the support as formed in step (a) of Claim [19] 14 or is an unmasked reactive site on a molecule [on] bound to the support as formed in step (d) of Claim [19] 14;

(b) replacing the chemically labile protecting group with [the] a photolabile protecting group to provide a region of the support having a molecule with the photolabile protecting group; and

(c) optionally repeating steps (d)-(f) of Claim [19 as desired] 14.

30. (New) A compound represented by the formula M-Y_1, wherein Y_1 is selected form the group consisting of:



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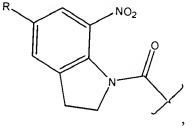

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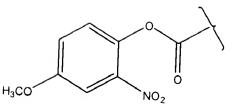

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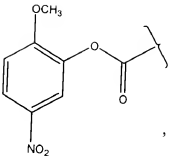

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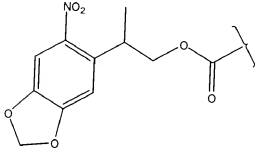

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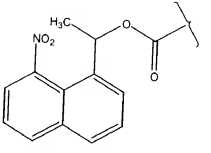

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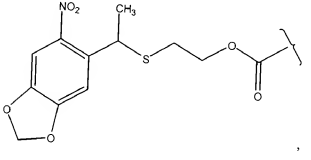
31. (New) The compound of Claim 30, wherein M is a nucleoside β-cyanoethyl phosphoramidite.

32. (New) The method of Claim 8, wherein Y_1 for each occurrence is, independently, selected from the group consisting of:



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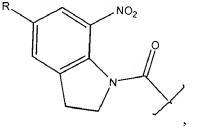

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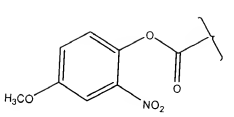

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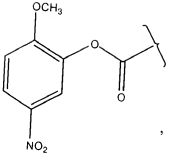

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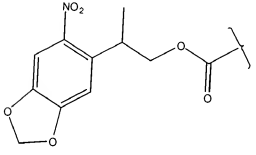

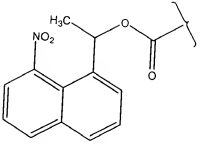

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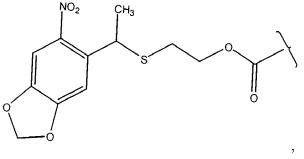
33. (New) The method of Claim 32, wherein M_1 for each occurrence is a nucleoside β-cyanoethyl phosphoramidite.

34. (New) The method of Claim 14, wherein Y_1 for each occurrence is, independently, selected from the group consisting of:



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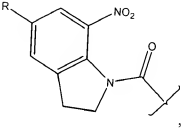

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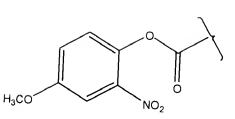

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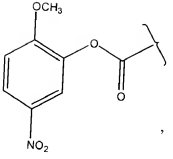

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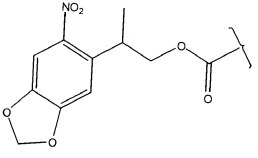

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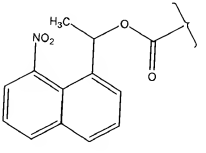

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35. (New) The method of Claim 34, wherein M_1 for each occurrence is a nucleoside β-cyanoethyl phosphoramidite.